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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,996

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EXAMINER

SINGH, DALZID E

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

05/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/618,996

Applicant(s)

SMITH, DAVID F.

Examiner

Dalzd Singh

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-20 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the encoding step post separation of claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites the step of "parameter encoding the data signals;" However, as shown in Figs. 14 and 15, the encoding step is performed prior to separation. The disclosure does not provide structure or circuit diagram to teach a person of ordinary skill how the encoding step is performed after separation. Based on this, the specification fails to comply with the enablement requirement (for the purpose of this office action, the encoding step is considered prior to separation and decoding step is considered after combining. Such interpretation is supported by applicant's disclosure; see Figs. 14 and 15).

Claim 6 recites, "wherein parameter encoding includes separating the input traffic into a plurality of portions and varying the size of the portions". The disclosure does not provide structure or circuit diagram to teach a person of ordinary skill how the size of the data signal is varied. Based on this, the specification fails to comply with the

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enablement requirement

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Spanke (US Patent No. 5,572,350).

Regarding claim 1 (in view of the 112 1st paragraph rejection), Spanke discloses a method for transmitting traffic in an optical communication system, as shown in Fig. 1, comprising:

parameter encoding the data signals (see col. 3, lines 13-18);

separating the input traffic into a plurality of data signals (32);

transmitting each of the data signals on a separate optical channel (the data is transmitted on fiber 36₁ - 36_M);

receiving the data signals on the channels;

combining the plurality of data signals from the channels into output traffic corresponding to the input traffic (34); and,

parameter decoding the data signals (see col. 3, lines 65-67).

Regarding claim 2, wherein the parameter encoding occurs before transmitting (see Fig. 1).

Regarding claim 3, wherein the parameter encoding occurs before separating (see Fig. 1).

Regarding claim 4, wherein parameter encoding includes inserting a known time shift between at least two of the data signals (as shown in Fig. 1, Spanke shows time delays on each data signal after separation (32); see col. 3, lines 49-56).

Regarding claim 5, wherein parameter encoding further includes:

separating the input traffic into a plurality of portions (Fig. 1 shows plurality of signals separated; first and second of the many separated signals can be considered as plurality of portion);

separating the input traffic into an additional plurality of portions (the remaining separated signals can be considered as additional plurality of portion);

assigning the plurality portions in a first order to a plurality of data signals (the order to assign according to delay; see col. 3, lines 56-64 and col. 4, lines 19-47);

assigning the plurality of additional portions in a second order to the plurality of data signals (the order to assign according to delay; see col. 3, lines 56-64 and col. 4, lines 19-47).

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Regarding claim 6 (in view of the 112 1st paragraph), wherein parameter encoding includes separating the input traffic into a plurality of portions and varying the size of the portions (Fig. 1 shows separating the data portion and re-order the data frame; see col. 4, lines 29-47; re-ordering the data frame varies the data size).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spanke (US Patent No. 5,572,350) in view of Smith et al (US Patent No. 7,149,432).

Regarding claim 7, Spanke discloses encoding and suggests that the encoding may be any type (see col. 3, lines 15-17) and differs from this claim in that Spanke does not disclose that the encoding includes FEC encoding the input traffic wherein the parameters of the FEC encoding vary over time. Smith et al teach the use of FEC encoding on data signal (see col. 3, lines 30-31). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide FEC encoding as taught by Smith et al to the system of Spanke. One of ordinary skill in the art would have been motivated to do this in order to reduce error

rate.

Allowable Subject Matter

8. Claims 8-20 are allowed.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smith et al (US Patent No. 7,149,432) is cited to show method and apparatus for equalization across plural data channels.

Cho et al (US Pub. No. 2003/0058504) is cited to show method and system for mitigating nonlinear transmission impairment in fiber-optic communications systems.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS
May 9, 2007

DALZID SINGH
PRIMARY EXAMINER

Dalzid Singh